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In the

Supreme Court of the United States.

OCTOBER TERM, 1942.

No. 71.

UNITED CARBON COMPANY,
AND
UNITED CARBON COMPANY, INC.,
Petitioners,

v.

BINNEY & SMITH COMPANY,
Respondent.

BRIEF FOR PETITIONERS.

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TABLE OF CONTENTS.

	Page
Opinions of the Court Below and Prior Proceedings	1
Jurisdiction	2
Statement of the Case	2
(1) Carbon Black, Its Properties and Uses	3
(2) The Patent in Suit	4
(3) The Prior Art	6
(4) The Proceedings in the Patent Office — The File Wrapper	12
(5) The Commercial Processes of Making Carbon Black Pellets	13
(6) The Infringement Charged	16
(7) The Development of the Use of Carbon Black in Rubber Manufacture	16
(8) The Scope of the Monopoly Resulting from the Patent	19
(9) The Decision of the District Court	20
Assignment of Errors	22
Summary of Argument	23
Argument	24
1. The Claims in Suit are Invalid for Lack of Novelty and Invention	24
A. For want of novelty in view of the patents to Knowlton & Hoffman (R. 287), Geer (R. 289) and Coffin & Keen (R. 297),	24
B. The Claims are Void for Want of Invention in View of the Patents to Knowlton & Hoffman (R. 287), Geer (R. 289), and Coffin & Keen (R. 297)	33
(a) What the Public Knew as to Pellets made from Dusty Powders	33

Page

(b) The Mere Substitution of One Material for Another is Not Invention 35

(c) The Claims Distinguished the Alleged Invention from the Prior Art Merely by Differences in Degree — But a Mere Change in Degree is Not Invention 36

(d) A Mere Carrying Forward of an Old Idea is Not Invention 37

(e) To give a new form to an old substance is not invention 38

(f) The Patent In Suit Does Not Measure Up to the Standards of Invention Set by this Court 39

2. If Valid The Claims Should be Construed Narrowly (A) In View of the Prior Art, (B) The Limitations Imposed on Them by the File Wrapper and (C) To Avoid Indefiniteness. When so Construed Petitioner's Product Does Not Infringe 41

A. In View of the Prior Art 41

B. In View of the Limitations Imposed on the Claims by the File Wrapper 42

C. To Avoid Indefiniteness 46

D. When so Construed the Petitioner's Product Does not Infringe the Claims 48

3. The Decision of the Court of Appeals Results in Extending the Monopoly of the Patent Beyond any Invention Disclosed 51

4. A Word as to Product Claims 52

Conclusion 53

TABLE OF CASES.

	Page
American Fruit Growers v. Brogdex Co., 283 U.S. 1, 14	27
Atlantic Works v. Brady, 107 U.S. 192, 200	40
Bisight Co. v. Onepiece Bifocal Lens Co., 259 Fed. 275 (C.C.A. 4)	30
Brown v. District of Columbia, 130 U.S. 87, 99	35
Butler v. Steckel, 137 U.S. 21	27
Godfrey L. Cabot, Inc. v. J. M. Huber Corp., 35 F. Supp. 373, affirmed 127 F. (2d) 805	13
Cohn v. The Corset Company, 93 U.S. 366, 370, 377	21, 22, 28, 29
Cuno Corporation v. Automatic Devices Corp., 314 U.S. 84, 86 L. Ed. 21, 26	19, 22, 24, 39, 40
In re Decker, 36 App. D.C. 104	30
Densmore v. Schofield, 102 U.S. 375, 378	24, 39, 51
Eibel Process Co. v. Minnesota & Ontario Paper Co., 261 U.S. 45	39
Exhibit Supply Company v. Ace Patents Corporation, 315 U.S. 126, 86 L. Ed. 453, 458	41, 46
In re Fink, 62 F. (2d) 103, 104 (C.C.P.A.)	30, 37
Gardner v. Herz, 118 U.S. 180, 196	35, 36, 38
General Electric Co. v. DeForest Radio Co., 28 F. (2d) 641; affirming 17 F. (2d) 90, 98-101	22, 30, 37
General Electric Co. v. Wabash Co., 304 U.S. 364, 369	27, 46, 47
Glue Co. v. Upton, 97 U.S. 3	22, 38
Guidet v. Brooklyn, 105 U.S. 550, 552	37
Holland Furniture Co. v. Perkins Glue Co., 277 U.S. 245, 257-8	27, 52
Hotchkiss v. Greenwood, 52 U.S. (11 How.) 248, 266, 267, 13 L. Ed. 683-691	35, 39

Page

Knapp v. Morss, 150 U.S. 211, 228 ..... 27, 32

Los Alamitos Sugar Co. v. Carroll, (C.C.A. 9) 173 Fed. 280, 285-286 31

Lynch v. Headley, 285 Fed. 1003, 1004 (App. D.C.) 31

Machine Co. v. Murphy, 97 U.S. 120, 125 26

In re Marden, 48 F. (2d) 428 (C.C.P.A.) 30

Miller v. Eagle Mfg. Co., 151 U.S. 186, 198 ..... 27, 32

Morton Salt Co. v. G. S. Suppiger Co., 314 U.S. 488, 492, 86 L. Ed. 317 51

Onepiece Bifocal Lens Co. v. Bisight Co., 246 F. 450, 454-459 30

Peters v. Active Mfg. Co., 129 U.S. 530, 537 ..... 27, 32

Powers Kennedy v. Concrete Co., 282 U.S. 175, 185 37

Railroad Supply v. Elyria Iron Co., 244 U.S. 285, 292 37

Sanitary Refrigerator Co. v. Winters, 280 U.S. 30, 41-42 27

Schriber Co. v. Cleveland Trust Co., 311 U.S. 211, 220 ..... 41, 45

Smith v. Goodyear Dental Vulcanite Co., 93 U.S. 486 35

Smith v. Nichols, 21 Wall. 122, 22 L. Ed. 566, 567 37

Syracuse Chilled Plow Co. v. Robinson, 35 Fed. 502 27

Thompson v. Boisselier, 114 U.S. 1, 11 ..... 33, 36

Walker on Patents (Dellers Ed.) p. 1222 31

Westinghouse v. Boyden Power Brake Co., 170 U.S. 537, 568 27

The Wood Paper Patent, 23 Wall. 566, 594 27

Wright v. Yuengling, 155 U.S. 47 37

United States Patent Office, Rules of Practice, Rule 139 43

R.S. 4886 (35 U.S.C. Sec. 31) 28, 33

R.S. 4888 (35 U.S.C. Sec. 33) 46

R.S. 4920 (35 U.S.C. Sec. 69) 28

Page

Hamilton's Monograph, No. 31, Patents and Free Enterprise, p. 125 ____ 43

Hamilton's Monograph, No. 31, Patents and Free Enterprise, p. 124 ____ 43

Patentability of Product of a Process, 36 Mich. L.R. 811-817 (1938) ____ 52

Is a Product of a Process Patentable?, 11 Va. L.R. 432 (1925) ____ 52

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BRIEF FOR PETITIONERS.

OPINIONS OF THE COURT BELOW AND PRIOR PROCEEDINGS.

This is a suit for infringement of claims 1 and 2 of Wiegand and Venuto patent No. 1,889,429, granted November 29, 1932 for "Carbon Black and a Process of Making Same" (R. 228). The suit was instituted by Binney & Smith Company, respondent, against United Carbon Company and United Carbon Company, Inc., petitioners. Both validity and infringement of the patent are in issue.

The District Court for the Southern District of West Virginia dismissed the complaint holding the patent invalid and not infringed (R. 4).

Italics and bold faced type used for emphasis are by counsel unless otherwise stated.

The opinion, in the form of findings of fact and conclusions of law, is reported in 37 Fed. Supp. 779 and printed at R. 1-3.

The Circuit Court of Appeals for the Fourth Circuit reversed the District Court on the essential findings of fact, and conclusions of law and held the patent valid and infringed. Its opinion is reported in 125 F. (2d) 255 and printed at R. 461-471.

The Court of Appeals also denied a petition for rehearing in an opinion reported in 126 F. (2d) 3 and printed at R. 474-475.

JURISDICTION.

The writ of certiorari was granted by this Court on May 11, 1942.

This is a suit arising under the Patent Laws of the United States, Judicial Code, Sec. 24(7), (28 U.S.C. §41(7)).

The jurisdiction of this Court is invoked under Section 240(a) of the Judicial Code, as amended by the Act of February 13, 1925 (28 U.S.C. §347).

STATEMENT OF THE CASE.

The patent in suit is for "Carbon black and process of making same" but the claims in suit are for the product. They are:

> "1. Substantially pure carbon black in the form of commercially uniform, comparatively small, rounded, smooth aggregates having a spongy or porous interior."
>
> "2. As an article of manufacture, a pellet of approximately one sixteenth of an inch in diameter and formed of a porous mass of substantially pure carbon black." (R. 231).

The process described consists in making a very thin paste by mixing carbon black and water, then adding gaso-

line and then "thoroughly agitating". The patentees say that the wetting by one liquid and its displacement by another which selectively wets the carbon black produces pellets or granules which have the peculiar property of disintegrating into particles having the softness of the original particles, free from the harshness characteristic of carbon black wet with a single liquid and dried (R. 228, lines 70-83; R. 230, lines 97-100; R. 226, lines 26-35).

Petitioners (defendants) do not use two liquids. They mix carbon black and *water alone* until it has the consistency of wet loam—"not as wet as paste"—and rotate the mixture in a drum until it forms into pellets which are then dried and screened (R. 100). The patent says pellets made with a "single liquid" do not have the characteristics of those made with two liquids.

Petitioners are charged with infringement by making and selling carbon black pellets made by an altogether different process involving the use of a single liquid, water.

(I) Carbon Black, Its Properties and Uses.

Carbon black, the soot collected from the smoke of burning natural gas, (R. 7) is an impalpable black powder, very light and bulky. It is flocculent, and, when agitated, the tiny particles tend to adhere to each other, and eventually, to form little balls. In common with other light powders, it is dusty and difficult to handle and ship. Carbon black is used chiefly to strengthen and toughen rubber and make it more resistant to abrasion (R. 9). In 1939 more than 500,000,000 pounds were produced (R. 10), of which 89% was used in compounding rubber (Plf. Exh. 8, p. 5, R. 457; offered R. 11).

When mixed with rubber, carbon black greatly reduces the amount of rubber required. In tire treads 45 or 50 parts of carbon black for each 100 parts of rubber are used (R. 63), and such treads have many times the life of treads

made with other fillers, such as zinc oxide (R. 10). Thus far less rubber is required and that which is used wears longer.

Carbon black has become an essential element of our national economy.

(2) The Patent in Suit.

Wiegand & Venuto's process of making pellets is a flotation process. It consists in wetting the carbon black with one liquid (water) to form a very thin paste, and then adding an immiscible liquid (gasoline) which has a greater ability to wet the carbon particles (R. 229, lines 5-8). On thorough agitation the gasoline displaces the water and causes the carbon black to form pellets floating in the water which are then separated and dried (R. 229, lines 18-25).

Wiegand and Venuto say that their process eliminates impurities:

> ". . . any grit which there may be in the carbon black may settle to the bottom, while the pellets float to the top and thus the purification of the carbon black will be effected at the same time the pellets are formed." (R. 229, lines 100-105).

The patentees describe the peculiar pellets produced by their process as follows:

> "The pellets are *very* porous . . . are fragile under light pressure, and may be reduced to soft minute particles which cannot be told from the original particles except that possibly they have a more unctuous feel . . . Apparently the outer surface portion or shell of each pellet is slightly more compact than the inner part, but still porous." (R. p. 229, lines 80-94.)

The patentees attribute the softness and porosity of their pellets to the use of two immiscible liquids, the second of

which drives out the first and prevents hard caking of the carbon black and loss of dispersibility.

> "The whole process of pellet formation depends upon the selective wetting power which the various solvents exert on the carbon black." (R. 230, lines 97-100.)

The patentees also explain that their two liquid processes may be used to produce pellets from other powdery materials.

> "We find that the present invention can be applied to other fine powders whose industrial applications depend upon their dispersibility. For example, precipitated magnesium carbonate, zinc oxide, titanium oxide, barium sulfate, and certain talcs and clays * * *"
>
> * * * * * *
>
> We have obtained very satisfactory pellets from magnesium carbonate and also from zinc oxide by the use of the process exactly as described above although benzol has been used instead of gasoline." (R. 230, lines 106-123.)

The fact that the Wiegand & Venuto two-liquid process can be used to convert other fine powders into pellets is important in the consideration of the prior art.

Thus the patentees have set out what they thought was their new idea [1] of using two liquids successively, one water and the other gasoline, to the end that gasoline because of its greater wetting properties would drive the water out of the carbon black and rise with the black to the top of the water.

The patentees then claim (R. 231 and ante, p. 2) the pel-

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[1] But even Wiegand & Venuto's two-liquid process was not new. Trent's British patents Nos. 151,236 (R. 431) and 183,430 (R. 290) describe making carbonaceous material (coal dust) into spherical balls by a two-liquid process which differs from Wiegand & Venuto's only in using a less volatile hydrocarbon in place of gasoline.

lets of carbon black in terms which specify the following characteristics: (1) "substantially pure"; (2) "rounded smooth aggregates", or, in claim 2, the equivalent of this—"a pellet"; (3) commercially uniform; (4) "small"—in claim 2 "approximately 1/16th of an inch in diameter"; (5) "spongy or porous interior", or, in claim 2, a "porous mass." The claims are indefinite.

The claims are directed to features having no commercial significance. According to the respondent the features of the product which had commercial value were (1) purity, (2) sufficient hardness to handle, (3) softness enough to get results, and (4) flowability (R. 19). The claims include none of these features except purity. Uniformity of size, comparative smallness (1/16" in diameter), and internal sponginess or porosity (R. 110) are of no commercial significance.

The claims are not limited in words to a product having peculiar characteristics resulting from the use of gasoline to drive out the water and leave the carbon black soft, nor to any measure of ready dispersibility, or of hardness or softness but, as written, they purport to cover all aggregates of substantially pure carbon black if comparatively small and rounded. The reference in the claims to the "spongy or porous" interiors of such pellets is without significance (R. 84-86).

(3) The Prior Art.

The agglomeration of dry powders into pellets or granules to avoid dustiness and facilitate handling is described in the Rodman patents No. 1,076,235, R. 436, and 1,239,221, R. 439. The patent in suit recognizes that the agglomeration of a dusty powder is not peculiar to carbon black (R. 230, lines 106-118).

Wiegand admitted on cross-examination that he had seen

"carbon black in spherical form" before he made his invention. (R. 88.)

The Geer patent 1,245,700, Nov. 6, 1917 (R. 289) describes a process of converting carbon black into a "granular condition through wetting of the particles and their concretion into grains" (R. 289, lines 21-23) to eliminate dust during the compounding of rubber in the mill room.

Geer says:

> "Two liquids which I have successfully employed for this purpose are **water** and kerosene oil, both of which have the effect of rendering the gas-black dustless and yet not pasty when mixed therewith in suitable proportions. For example, I mix two parts, by weight, of gas-black with one part of kerosene oil **in a suitable closed vessel which preferably contains rapidly-revolving paddles which assist the mixing and promote the attainment of the granular condition.**" (p. 311, lines 25-35).
>
> * * * * * *
>
> "The use of water gives an effect substantially the same as kerosene, but it requires a longer time for compounding on the mill in order to permit the drying-out of the water." (p. 289, lines 53-57).

Thus Geer gave the public a single liquid process for converting carbon black into granules or pellets. He thought it unnecessary to dry the "grains", but we need not consider whether it required more than mechanical skill to dry Geer's grains because the next patent to be considered made grains by Geer's process and dried them before putting them into the rubber.

Geer was immediately followed by his associates **Knowlton & Hoffman** patent * 1,286,024, Nov. 26, 1918 (R. 287).

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* This patent was not cited by the Patent Office.

They used Geer's process but dried the granules of carbon black. They say ". . . our invention being an improvement upon the process of that nature described in an application of William C. Geer, Serial No. 100,153, filed May 26, 1916" (R. 287, lines 60-63). They also say

> ". . . we prepare and treat the fine powder so as to cause its concretion into *friable grains* or small lumps *dry and substantially free from dust*, and in this form incorporate it with the rubber on the roller mill . . . the friability of the lumps or grains permitting a uniform distribution of the filler throughout the rubber" (R. 287, lines 22-31).

In the manufacture of their product Knowlton & Hoffman employed either "water or other volatile liquid alone" (R. 287, line 32) or water and a "small quantity of a soluble agglutinant such as glue, starch, dextrose or sugar or some other binder" (R. 287, lines 36-39).

Thus by using Geer's process of agitation "in a suitable closed vessel which contains rapidly revolving paddles" and water alone, *i.e.* without a binder, Knowlton & Hoffman taught the public that they could produce grains or lumps, *i.e.* pellets, whose friability would permit "uniform distribution throughout the rubber" and they could thus "keep the atmosphere." Knowlton & Hoffman did all that Wiegand & Venuto did unless the latter's two-liquid process will produce pellets having physical properties which Knowlton & Hoffman's (and respondent's) single-liquid pellets do not have. In an attempt to distinguish the product of the patent in suit from that of the Geer and Knowlton & Hoffman processes, respondent asserted that the latter was too dense and harsh, and coined the phrase "mud-cake" to belittle the prior art. The Court of Appeals was apparently misled by this clever derogatory phrase.

Coffin & Keen patent * No. 1,561,971 (R. p. 297) describes the manufacture of pellets from "any pulverulent material, such as other rubber fillers, . . . in which objectionable dusting occurs in handling." (R. p. 297, lines 17-21.) Coffin & Keen made their pellets by forming a fluid suspension of clay in water and blowing it into an uprising column of hot air where it was converted into pellets which were dried as they fell. (R. p. 297, lines 57-66, and p. 298, lines 55-65.)

Bearing in mind that, in this suit the process claims are not in issue, and that Wiegand & Venuto said: "We find that the present invention can be applied to other fine powders whose industrial applications depend upon their dispersibility." (R. 230, lines 106-123), it is apparent that Wiegand & Venuto only patented what Coffin & Keen had already taught, that, to avoid dust, pulverulent rubber fillers should be made into pellets capable of disintegrating into their original particles when milled into the rubber.

Not only did Coffin & Keen describe such pellets, but they explained all the advantages of such pellets using almost the language of the Wiegand & Venuto patent, and they claimed, as a new article of manufacture "dried pulverulent material in the form of very small individually dried, friable globular masses composed of lightly cohering particles of the material". (R. 299, claim 10).

Coffin & Keen pointed out the following advantages:

1. That the pellets were "extremely fluent" and therefore "readily handled". (R. 298, lines 103-104.) *Compare* this with Wiegand & Venuto's statement that their pellets "may be stored in bins and delivered through chutes". (R. 229, lines 108-109.)

2. That the invention was applicable to rubber fillers in which objectionable dusting occurs. (R. 299, lines 16-21.) *Compare* this with Wiegand & Venuto's state-

* This patent was not cited by the Patent Office.

ment that "the invention can be applied to other fine powders". (R. 230, lines 106-107.)

3. That the pellets are sufficiently strong "to substantially prevent their breaking up during handling". (R. 298, lines 129-130). *Compare* this with Wiegand & Venuto's statement that their "pellets are hard enough to stand any ordinary shipment or handling". (R. 228, lines 81-84.)

4. That the individual particles composing the pellets are so lightly held together "that a very slight pressure, such as that of the fingers is sufficient to crush the grains." (R. 298, lines-125-127.) *Compare* this with Wiegand & Venuto's statement that their pellets could be crushed between the fingers. (R. 228, lines 86-87.)

5. That pellets can be made of various rubber fillers, *e.g.* clay, whiting,[1] and barytes[2] (R. 299, lines 18-23). *Compare* this with Wiegand & Venuto's statement that their alleged invention was applicable to "magnesium carbonate and barium sulphate" (R. 230, lines 109-111).

Thus, as far as the pellets or product are concerned, Coffin & Keen had made the discovery that pellets could be made from rubber fillers in general while Wiegand & Venuto have claimed and so attempted to monopolize the improvement when applied to a particular rubber filler, namely, carbon black.

After the Geer patent there was no novelty in pellets of carbon black made without a binder; after the Knowlton & Hoffman patent there was none in drying the Geer pellets, and after Coffin & Keen there was none in the idea that flowable pellets made of rubber fillers should be soft enough

1. Whiting — calcium carbonate.
2. Barytes — barium sulphate.

to disperse and strong enough to handle in closed systems, thereby minimizing the dust nuisance. If a problem remained, it was to discover a method of making pellets cheaply enough to compete with carbon black in powder form.

Wiegand and Venuto did not invent the granular or pellet form of pure carbon black but only a way of making it, which did not prove commercially successful, since at the end of 1931 (R. 32) the respondent abandoned both the process and its peculiar product.*

The Court of Appeals (R. 468) rejected this prior art and held the invention patentable, *first* because the water or kerosene * used by Geer went into the rubber and was objectionable to the rubber industry; *second* because the court thought that the Knowlton & Hoffman patent did not disclose how the granulation of the carbon black was to be done, and because as shown by the example he preferred to use a binder such as starch. The Court disregarded Knowlton & Hoffman's statement that their process was an improvement on Geer's as well as the statement that the water used was subsequently dried out (R. 287, line 35). The Court of Appeals (R. 469) rejected the Coffin & Keen patent because the process described by that patent did not seem to them to be applicable to the manufacture of carbon black pellets thus erroneously assuming in connection with that patent as well as with the Knowlton & Hoffman patent that a patent which anticipates a product must describe a process of making the product.

The foregoing facts are basis of the first, second and third questions presented by the writ of certiorari. See Specifications of Error Nos. 1, 2, 3 and 6.

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* Only a small sample of the original Wiegand & Venuto product was in existence at the time of the trial (R. 187).

* The Court of Appeals used the word gasoline but undoubtedly meant kerosene. R. 468.

(4) The Proceedings in the Patent Office—The File Wrapper.

None of the foregoing patents, except the patent to Geer No. 1,245,700, was cited by the Patent Office. The Patent Office failed to find the all-important Knowlton & Hoffman, Coffin & Keen, Trent patents. Originally Wiegand and Venuto made various claims on their product, of which the following are typical:

> "2. Carbon black in the form of pellets of sponge-like or porous character." (R. 312.)
>
> "4. A pellet formed of soft carbon black particles, the pellet being sufficiently hard to withstand ordinary shipment or handling, but readily breaking down to a fine state of subdivision upon the application of slight pressure." (R. 312.)
>
> "7. A carbon black pellet formed of soft carbon black, the pellet having sufficient hardness to withstand ordinary shipment or handling without dusting, but sufficiently fragile to permit reduction to the original fine state of subdivision upon the application of light pressure." (R. 312.)
>
> "8. Soft carbon black particles cohering in small masses of substantially uniform size and having smooth outer surfaces." (R. 313.)

Claims 2 and 7 were cancelled on references (R. 320) and claim 4 after a slight amendment and claim 8 without amendment were appealed to the Board of Appeals (R. 342), but the Board affirmed the rejection of the claims and said:

> "Claims 4 and 8 are broad article claims not in any way restricted to the method taught by appellants or even necessarily to the particular product produced by their process. We believe that a product as broadly

stated as by these claims may result from methods far afield from that disclosed by appellants and not in any way suggested by them. These claims are so broad that the product might be quite different from appellants'. We do not consider, therefore, that claims 4 and 8 properly define appellants' invention." (R. 360.)

The applicants then cancelled the claims 4 and 8. The subject matter of the cancelled claims was thus abandoned to the public.

These proceedings are important because the interpretation put on claims 1 and 2 of the patent by the Court of Appeals makes them equivalent to the cancelled claims.

The foregoing is the basis of fact of the fourth question presented by the petition for certiorari. See Specification of Error No. 4.

(5) The Commercial Processes of Making Carbon Black Pellets.

Carbon black is flocculent. When agitated in a dry state [1] or in a wetted state, it forms round aggregates, *i.e.* grains or pellets. The Wiegand & Venuto product, the manufacture of which was abandoned at the end of 1931, was made by agitating in an extremely wetted state 5 parts of carbon black with from 40 to 80 parts of liquids (R. 229); but commercially acceptable carbon black pellets, including those of petitioners, are made (a) by dry agitation, or (b) by single-liquid wet processes in which approximately 40 to 35 parts of black is but slightly wetted by 60 to 65 parts of water.[2] (R. 100.) The size, shape and density of the pellets

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[1] See Godfrey L. Cabot, Inc. v. J. M. Huber Corp.; 35 Fed. Supp. 373. Affirmed 127 F. (2d) 805.

[2] Since carbon black is very light, the bulk or volume is much greater than that of the water used.

may be controlled by varying the type of agitating apparatus, the length or severity of agitation and the proportion of black to liquid. Widely differing processes produce products having utility and commercial acceptance.

(A) *The Cabot Process.* Dry flocculent black is submitted to "turbulent agitation" until spherical granules, having smooth, polished, non-adherent exteriors and a compact internal structure are produced (Billings & Offutt Pat. 2,039,766, R. 258). This is the process and product of Godfrey L. Cabot, Inc. Petitioners are licensed under this process (R. 109). In 1939, 73,000,000 lbs. of pellet black was made by the Cabot Company (R. 149) and 31,000,000 lbs. by petitioners by this process (R. 185).

(B) *The Huber Process.* The dry carbon black is formed into pellets by gentle but continuous tumbling (Price Pat. 2,127,137, R. 271). The product of this process is made and sold by J. M. Huber Corporation (R. 156).

(C) *Petitioners' Extrusion Process.* The carbon black is wet with water and then is forced through a perforated extrusion die forming strings like spaghetti approximately ⅛ of an inch in diameter, which break up into flowable grains during the process of drying (R. 97-8). In 1939, petitioners sold 48,578,000 lbs. of this product (R. 185).

(D) *Petitioners'—"Sayre Process".* 60 to 65 parts of water and 40 to 35 parts of black with all the impurities which it contains as it comes from the burners is rotated in an "upper agitating pin-drum" to form very fine pellets which fall into a "lower agitating pin-drum" where the fine pellets increase in size and any larger masses of wetted carbon black are broken up. These pellets are then dried and screened to a given size (R. 100-103). They weigh 25 lbs. per cu. ft. (R. 123). Their surface is a "bit rough" and "pitted" (R. 137). The interior is uniform in density

throughout and is decidedly free from much porosity (R. 142). When broken, the pellets show a clean fracture (R. 143). In 1939, petitioners shipped over 17,000,000 lbs. of this product (R. 185).

(E) *Glaxner Process employed by the Columbian Carbon Company to make the "Micronex Beads" sold by the respondent* (R. 52). (See Glaxner patent Re. 21,379, R. 264). A "heavy doughy mass" of about equal parts of carbon black and water (R. 265, col. 2, line 7; and line 14) is formed into pellets ("Micronex Beads") by the action of agitator arms on a shaft rotating in a stationary inclined cylinder. In the Glaxner process the proportion of water to carbon black is slightly less than in petitioner's Sayre process and the mechanical conditions of agitation are different. Respondent sold 97,000,000 lbs. of the product of this process in 1939 (R. 33).

Throughout its opinion, the Circuit Court of Appeals incorrectly referred to the Glaxner pellets as the "plaintiff's product". It assumed that the Glaxner patent was owned by the plaintiff (respondent) and was an improvement on Wiegand & Venuto's. This confusion originated with plaintiff's witnesses who never distinguished between the different pellets. In fact the respondent only acts as selling agent for the Glaxner pellets made by Columbian Carbon Company. As already stated the respondent gave up making pellets by the Wiegand & Venuto two-liquid process at the end of 1931 (R. 55-6), apparently because the pellets were too soft and friable (R. 152-153) and the process too expensive (R. 32).

(F) *General Atlas Carbon Company's Heller Process* (see Heller & Snow patent 2,131,686, R. 276). Pre-densified carbon black is wetted with 35%-65% water and agitated in a mixer having an axial rotating shaft on which radial rods are mounted.

These commercial processes thus vary from the use of no water in the Cabot and Huber processes, to the use of equal amounts of water and carbon black in the Glaxner process. They vary as to speeds and kinds of agitation employed. They use vertical drums with agitators, horizontal rolling drums, stationary cylindrical chambers with agitators, and pellet mills. All these factors influence the size and structure of the pellets produced (Dft's. Exh. 20, p. 18, offered R. 133). Thus carbon black pellets may be made dry or wet, by violent or gentle agitation, by mere cascading or by extrusion. If the decision of the Court of Appeals should stand, respondent would be in a position to contend that its patent in suit covers all of these different commercial carbon black pellets made by these widely divergent processes.

(6) The Infringement Charged.

Respondent based its case at the trial on alleged infringement by the product of the Sayre process; *i.e.* Plf's Exh. 20, offered R. 72, testimony R. 72-3. This product is described on page 14 of this brief. Respondent avoided saying whether it also charges that petitioners' product made by the Cabot process also infringes, but has, since the decision of the Court of Appeals in the case at bar, brought a suit in Massachusetts against the Cabot Company charging that its product infringes. (Binney & Smith Company v. Godfrey L. Cabot Company, Dist. of Mass. Civ. No. 1782.)

(7) The Development of the Use of Carbon Black In Rubber Manufacture.

Prior to 1913 rubber automobile tires used a tread stock formed of rubber and zinc oxide (R. 9). In 1913 carbon black was substituted for zinc oxide and it was discovered that the tread wore longer because the carbon black cemented together the particles of rubber so that "the bond

is stronger than the rubber unit itself" (R. 10). Since 1913 carbon black has largely supplanted other rubber fillers.

The carbon black used in 1913 was in its flocculent powdered form. To reduce the bulk of this powder it was "compressed" under high pressures in either a mechanical or hydraulic press (R. 16). From 1920 to 1930 compressed black was the only thing that was used by the rubber customers (R. 17).

The carbon black, both compressed and uncompressed, was at first incorporated into the rubber by milling on open rubber mills, but in "the early thirties" the rubber companies began to use closed Banbury mixers (R. 44) and in 1933 the Cabot Company installed an enclosed handling system at the Firestone Tire & Rubber Company in which carbon black was conveyed in pipes from the storage bins directly to the Banbury mixers, and began to ship the carbon black in tank cars (R. 149).

Wiegand & Venuto filed the application for the patent in suit on December 2, 1927 and in 1928 supplied samples of the product made by their two-liquid process. During the years of 1928 to 1931 Respondent made small quantities of carbon black pellets by Wiegand & Venuto's two-liquid process in a pilot plant and supplied such pellets to the industry (R. 32, 50-1). These pellets had the softness and fragility which Wiegand & Venuto thought so desirable, but when shipped in bags the product looked to the witness Billings like "black scrambled eggs" (R. 152). The mixture inside the bags examined by Billings was "a mixture of pellets and broken pellets" "a mixture of carbon and dust" (R. 153).

During the years of 1928 to 1931 Respondent's production of carbon black pellets under the Wiegand & Venuto two-liquid process, in proportion to the total production of carbon black in the United States, is shown in the following table:

Year	Total Production of Carbon Black*	Production of Wiegand & Venuto Black (R. 59)	Percentage
1928	250,000,000 pounds	5,000 pounds	.002 %
1929	360,000,000 "	20,000 "	.0055%
1930	370,000,000 "	164,000 "	.044 %
1931	280,000,000 "	194,000 "	.069 %

Thus, after four years of effort, respondent did not succeed in inducing the industry to use over 69/100 of 1% of the total requirements of carbon black in the form of pellets.

Hard strong pellets of carbon black were made by the Cabot Company beginning in the fall of 1932 by its dry agitation method. After Cabot's installation in 1933 of the closed handling system at the Firestone plant Cabot began the shipment in tank cars (R. 149). The Cabot enclosed bulk handling system has been so universally adopted that today approximately ninety percent of all carbon black is handled in granular or pellet form (R. 456; offered R. 11).

In 1933 the Cabot Company sold eight million pounds and in 1934 sold twenty-three million pounds of the hard strong pellets* which are required for satisfactory shipment in tank cars and handling through the conveyor systems (R. 149).

In 1932 the manufacture of Wiegand & Venuto pellets by the Wiegand & Venuto process was abandoned and since that date the pellets sold by the respondent and called Micronex Beads have been made by the Glaxner single-liquid process (R. 34, 56 and 63). Despite the abandonment of the soft Wiegand & Venuto two-liquid pellets and the introduction of the harder denser "single-liquid" "Micronex beads" pellets to the trade in 1932, it was not until after the adoption of the closed handling systems by the rubber companies that respondent's sales showed an appreciable increase. In 1931 only 194,000 pounds of the pellets were made accord-

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* See graph, R. 453, offered R. 11.

* See Billings & Offutt patent, Reissue No. 19,750, R. 248.

ing to the process of the Wiegand & Venuto patent. In 1932 the sales of single-liquid pellets were 281,000 pounds (R. 32). There is no evidence in the record that a pellet made by Wiegand & Venuto's two-liquid process could be shipped in tank cars or handled in the commercial enclosed handling systems.

By adding its total sales of the pellets made by the two totally different processes, respondent made an impressive showing of commercial success. It is petitioner's position that in evaluating the alleged commercial acceptance of the product of the patent in suit only the sales of the two-liquid product can properly be considered.* The single-liquid product was a type of product which is condemned by the patent in suit, namely one in which the carbon black is wetted by a single liquid.

Petitioner, therefore, believes that the District Court was correct in finding as a fact that "plaintiff has not established that it achieved commercial success with its product described in claims 1 and 2 and manufactured by the process of plaintiff's patent" (R. 2) and that the Court of Appeals was in error in attributing commercial success to the patent in suit.

(8) The Scope of the Monopoly Resulting from the Patent.

In 1939 the total production of carbon black in the United States was 560,533,000 lbs. (Plf's Ex. 8, p. 5, R. 457, offered R. 11). The chapter on carbon black in the Minerals Year Book for 1940 (Plf's Ex. 8, p. 4, R. 456) says:

> ". . . it is doubtful if more than 10% of the present output is of the old non-granular type."

If this suit should be successful, respondent's monopoly

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* For a somewhat similar situation, see the concurring opinion of Chief Justice Stone in *Cuno Corporation* v. *Automatic Devices Corp.*, 314 U.S. 84, 86 Law. Ed. 21, 26.

of the carbon black industry would be little short of complete and would extend to the tire and rubber industry as well.

[9] The Decision of the District Court.

Basing its opinion upon the foregoing essential facts, the District Court for the Southern District of West Virginia (Barksdale, Judge) dismissed the Bill of Complaint and entered findings of fact and conclusions of law (R. 1-3), those pertinent to a decision of the matters here in controversy being summarized as follows:

(1) That claims 1 and 2 of the patent in suit are invalid over the prior art for want of invention and lack of novelty.

(a) Because the agglomeration of dry powders to eliminate dustiness and facilitate commercial handling was well known to the prior art when the application for Plaintiff's patent was filed. Finding 3, R. 2.

(b) And particularly in view of certain patents, the most important being

(1) Geer	1,245,700
(2) Knowlton & Hoffman	1,286,024
(3) Coffin & Keen	1,561,971
(4) Trent (Brit.)	183,430, Finding 8, R. 3

(2) That the description of Plaintiff's product in claims 1 and 2 is not sufficiently definite to distinguish Plaintiff's product from the product of prior art processes or from a product taught by the prior art and improved by the mechanical skill of those skilled in the art, and consequently are invalid for failure to define the product claimed to have been invented in such clear, definite and exact terms as required by patent law. Finding 4, R. 2.

(3) That the Plaintiff did not establish that it had achieved commercial success with its product described

in claims 1 and 2 and manufactured by the process of Plaintiff's patent. Finding 7, R. 2.

(4) That the cancellation of broader claims than claims 1 and 2 of the patent, requires a narrow construction of claims 1 and 2, if valid, and when so construed there would be no infringement because of recognizable differences between the product described by the claims of the patent and Defendant's product, such as degree of porosity, degree of purity, and degree of uniformity in size. Conclusion (1), R. 3.

The Circuit Court of Appeals for the Fourth Circuit (opinion by Judge Parker) held the claims in suit to be valid and infringed. The Court of Appeals disagreed with the District Court as to the effect of the prior art.

In reaching its conclusions the Court of Appeals assumed erroneously, it is believed, that the prior art patents, particularly Knowlton & Hoffman and Coffin & Keen did not describe a process for making pellets of carbon black and erroneously assumed that the supposed failure to describe a process destroyed the value of these patents as prior art, thus going contrary to the decision of this court in *Cohn* v. *The Corset Company*, 93 U.S. 366, 377.

The Court of Appeals also overruled the District Court's finding as to commercial success and its conclusion that the claims were indefinite. Further the Court of Appeals overruled the conclusion of the District Court that the claims if valid must be strictly construed in view of the file history; and, finally, disregarding the limitations imposed on the claims both by the file history and the prior art, reversed the District Court's finding of non-infringement.

ASSIGNMENT OF ERRORS.

The errors which petitioners urge are that the Circuit Court of Appeals for the Fourth Circuit erred,

(1) In not adjudging Claims 1 and 2 of Patent to Wiegand and Venuto, No. 1,889,429, invalid in view of *Cohn* v. *United States Corset Co.*, 93 U.S. 366, 377; and *General Electric Co.* v. *DeForest Radio Co.*, 28 F. (2d) 641 (affirming 17 F. (2d) 90, 98-101), because of the prior patent to Knowlton & Hoffman, No. 1,286,024;

(2) In not adjudging Claims 1 and 2 of Patent to Wiegand and Venuto, No. 1,889,429, invalid in view of *Cohn* v. *United States Corset Co.*, 93 U.S. 366, 377, because the prior patent to Knowlton & Hoffman, No. 1,286,024, when read in connection with the prior patent to Geer, No. 1,245,700, taught those skilled in the art how to produce the product of the claims in suit;

(3) In not adjudging Claims 1 and 2 of Patent to Wiegand and Venuto, No. 1,889,429, invalid in view of *Cuno Corp.* v. *Automatic Devices Corp.*, 314 U.S. 84, and *Glue Co.* v. *Upton*, 97 U.S. 3, because the patents of the prior art had described granules, agglomerates or pellets, like those of the claims in suit, made from the same or analogous pulverulent material and had disclosed how to make them;

(4) In so departing from the decisions of this Court, in holding Claims 1 and 2 of the patent in suit infringed by defendant's product, as to recapture from the public and for the patentee the subject-matter of cancelled Claims which had been eliminated from the patent application and dedicated to the public;

(5) In sustaining Claims 1 and 2 of Patent to Wiegand and Venuto, No. 1,889,429, as valid and infringed; and

(6) In failing to adjudge Claims 1 and 2 of Patent to Wiegand and Venuto, No. 1,889,429, invalid as completely anticipated by, and wanting in invention over, the prior art.

SUMMARY OF ARGUMENT.

The points of the argument are each of the five "Questions Presented" in the petition for certiorari. Stated in less formal language the Argument is as follows:

The Court of Appeals denied to the patent to Knowlton & Hoffman any invalidating effect because, so the Court said, that patent does not describe a process for making the granules or pellets described. If it be assumed that the Knowlton & Hoffman patent does not describe a process for making the pellets, nevertheless the Court below erred in holding that Knowlton & Hoffman failed on that account to anticipate the claims in suit (Questions presented No. 1; specification of error No. 1).

The patent to Knowlton & Hoffman when read in connection with the prior patent to Geer No. 1,245,700 does describe a process by which the product of Knowlton & Hoffman can be made. The Court below erred in not reading the two patents together and in adjudging the claims in suit invalid by reason of Knowlton & Hoffman when read with Geer (Questions presented No. 2; specification of error, No. 2).

Even if the product of the claims in suit has some novelty nevertheless the product is wholly lacking in invention. The Court of Appeals erred in holding the contrary (Question presented No. 3; specification of error, No. 3).

The claims in issue, even if valid, are so restricted and narrowed by the prior art patents to Knowlton & Hoffman, Geer and Coffin & Keen and by the claims cancelled by patentees during pendency of their application that defendant's product does not infringe. In adjudging to the contrary the Court of Appeals recaptured from the public and for the patentee, subject matter in the public domain (Questions presented 4 and 5; specification of errors, Nos. 4, 5 and 6).

ARGUMENT.

I. THE CLAIMS IN SUIT ARE INVALID FOR LACK OF NOVELTY AND INVENTION.*

A. For want of novelty in view of the patents to Knowlton & Hoffman (R. 287), Geer (R. 289) and Coffin & Keen (R. 297).

Knowlton & Hoffman say that their object is

> "to keep the atmosphere in the vicinity of the mixing mill substantially free from the dust or powder . . ."

and then they say

> "Instead of using the lampblack in its natural condition, we prepare and treat the fine powder so as to *cause its concretion into friable grains or small lumps, dry and substantially free from dust,* and *in this form* incorporate it with the rubber on the roller mill or in any suitable masticating apparatus heated in the usual way to soften the rubber, *the friability of the lumps or grains permitting a uniform distribution of the filler throughout the rubber. We may use water or*

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*This part of the argument deals with points 1, 2 and 3 of the Petition for Certiorari as follows:

1. Does a prior patent which describes a product but which does not describe a process by which that product can be made, fail on that account to anticipate a later patent which claims that product?

2. Does a prior patent which describes a product but refers to another patent for certain steps of the process by which the product is to be made, sufficiently meet the requirements of Sec. 4886 as to anticipation by prior patents and printed publications?

3. Did the Circuit Court of Appeals, in adjudging the product claims valid and appraising the rights of the public under the prior art patents, misunderstand, misinterpret and misapply the principles governing invention and the respective rights of patentees and the public, enunciated by this Court in Densmore v. Schofield, 102 U.S. 375, 378 and in Cuno Corp. v. Automatic Devices Corp., 314 U.S. 84?

other volatile liquid alone as a concreting agent, first mixing enough of it with the lampblack to produce the desired condition, and then drying the mass before mixing it with the rubber, * * * (R. 287, lines 21-36).

Knowlton & Hoffman then say that their invention is an improvement on the Geer process (see Geer patent No. 1,245,700, R. 289).

The *Geer patent* describes the "concretion into grains" of gas-black "to eliminate dust in the mill-room". He mixes the gas-black and water (or kerosene oil) "in a suitable closed vessel, which preferably contains rapidly revolving paddles,[1] which assist in the mixing and promote attainment of the granular condition." (R. 289, lines 33-5.)

To see what sort of "friable lumps or small grains" Knowlton & Hoffman produced, petitioners' expert, Dr. Drogin, mixed carbon black and water, agitated the mixture as described by Geer (R. 289) in a Daisy churn. He also used a Tamms' paint mixer, and a pin drum respectively (R. 159-163.) The pellets so produced were then dried. They are respectively Dft's. Exh. 29, 30 and 31 (offered R. 159, 160); Dft's. Exh. 33 (offered R. 162), and Dft's. Exh. 4 (offered R. 155). A glance at each of these exhibits shows that the pellets are small, rounded and smooth. Microscopic inspection shows that they have a spongy or porous interior.

The *Coffin & Keen patent* (No. 1,561,971 (R. 297) describes the manufacture of "clay . . . extensively used as a filler for rubber compounds" (R. 297, lines 20-1) into "dried grains or pellets" (R. 298, line 123, and claim 8, R. 299). They may be made of "any pulverulent material, such as other rubber fillers" (R. 299, lines 16-7). "As before stated, the dried grains or pellets are very small and the individual particles of clay forming them are only very

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[1] A good description of a Daisy churn. Ex. 12 offered R. 127.

lightly held together, so that a very slight pressure such as that of the fingers is sufficient to crush the grains . . ." (R. 298, lines 122-127). ". . . Hence the product is entirely suitable as obtained from the drying chamber for use directly in the rubber mill." (R. 298, line 130—R. 299, line 2.)

Like the patent in suit, both Knowlton & Hoffman and Coffin & Keen did not intend to change the dispersive properties of carbon black, or other rubber fillers, but to have it in the form of grains or pellets and thus avoid the dust nuisance in handling. Each is pure carbon black or pure "rubber filler". Each contains no binder. Each is friable [1] and so returns to its original powdered form while being mixed with rubber. Each product was strong enough to handle; each was soft or friable enough to disperse. They did not differ in kind or even in degree of usefulness or excellence.

Thus the pellets or grains of carbon black or other rubber filler respond exactly to the terms of the claims in suit. As stated in claim 1 they are "substantially pure"; they are "commercially uniform;" they are "small, rounded" and "smooth;" and are "spongy or porous." And as stated in claim 2, they are approximately 1/16th of an inch in diameter" and are "formed of a porous mass of substantially pure carbon black."

There is no patentable significance in Wiegand & Venuto's choice of phraseology.[2] Their pellets are not different from Knowlton & Hoffman's "friable grains" nor Coffin & Keen's "spherical friable pellets" merely because Wiegand & Venuto chose to describe them as having a "spongy or

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1 Friable — "Easily pulverized."

2 *Machine Co.* v. *Murphy*, 97 U.S. 120, 125.

porous interior."[1] Anything which is not solid is more or less spongy or porous. Some degree of sponginess or porosity is an inevitable characteristic of any carbon black pellet. (R. 85-6).

Identity of the product of the claims and the thing described in the earlier patent is not a matter of words of description, but of things.[2]

Patentable novelty is not supplied by mere novelty of form.[3] Nor do slight differences in purity render a product patentable.[4] Substantial identity with an earlier is all that is required to invalidate a later patent.[5] That which would infringe, if later, will anticipate, if earlier.[6]

It is submitted that since the product called for by the claims in issue is, as a matter of law and of fact, the product described in the antedating patents to Knowlton & Hoffman and Coffin & Keen, and consequently that the claims in suit are void.

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[1] While the Wiegand and Venuto two-liquid process affects "the internal structure of the pellets," making them "highly porous and un-uniform in density" (R. 146), the claims in suit do not define the extent of this porosity or provide any measure by which to distinguish from the art or to determine infringement. Indefinite phraseology in patent claims has been held by this Court to be a ground for invalidating claims. *General Electric Co.* v. *Wabash Co.*, 304 U.S. 364, 369; *Holland Furniture Co.* v. *Perkins Glue Co.*, 277 U.S. 245, 257.

[2] *Miller* v. *Eagle Mfg. Co.*, 151 U.S. 186, 198; *Westinghouse* v. *Boyden Power Brake Co.*, 170 U.S. 537, 568.

[3] *Sanitary Refrigerator Co.* v. *Winters*, 280 U.S. 30, 41-42;
Butler v. *Steckel*, 137 U.S. 21;
Syracuse Chilled Plow Co. v. *Robinson*, 35 Fed. 502;

[4] *The Wood-Paper Patent*, 23 Wall. 566, 594.

[5] *Miller* v. *Eagle Mfg. Co.*, 151 U.S. 186, 198;
Sanitary Refrigerator Co. v. *Winters*, 280 U.S. 30, 41-42.

[6] *American Fruit Growers* v. *Brogdex Co.*, 283 U.S. 1, 14;
Knapp v. *Morss*, 150 U.S. 221, 228;
Peters v. *Active Mfg. Co.*, 129 U.S. 530, 537;

The Court of Appeals came to its conclusion on the question of novelty, believed to be erroneous, because, it overlooked or failed to give value to Knowlton & Hoffman's statement that their invention was an improvement on Geer's process and so the court failed to find in those patents or in the Coffin & Keen patent a process by which it thought carbon black pellets might be made. Therefore, though these patents squarely describe the pellets in question, the court concluded that they did not anticipate. The Court of Appeals came to that conclusion because it failed to apply two rules of patent law.

First, a prior publication which contains a sufficient description of a product anticipates a claim on the product even though it does not tell how to make it, and *second* when one prior art patent contains a reference to an earlier patent the two patents are to be read together.

These two legal matters are raised by the first two "Questions Presented" by the Petition for Certiorari.

In reaching its conclusions of law, the Circuit Court of Appeals disregarded, it is believed, the pertinent statutes, the decision of this Court in *Cohn* v. *United States Corset Co.,* 93 U.S. 366, and the decisions of other Federal Courts in which that case has been followed.

R.S. 4886, 35 U.S.C. Sec. 31, provides:

> "Any person who has invented or discovered any new and useful . . . manufacture . . . not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, . . . may . . . obtain a patent therefor."

One of the statutory defenses to an infringement suit provided by R.S. 4920 (35 U.S.C. 69) is:

> "Third. That it has been patented or described in some printed publication prior to his supposed invention of discovery thereof, . . ."

In other words, the statutes say that an invention (here a thing or product) is patentable only when it has *not* been described in some printed publication. For anticipation, the statute does not require that a process for making the product shall also have been described.

In the *Cohn* case *supra*, Cohn had obtained a patent for "a corset having the pockets for the reception of the bones formed in the weaving, and varying in length relatively to each other . . ." A prior British specification to Johnson had been challenged as an anticipation because it did not tell how to make the corset which it described.

This Court said, 93 U.S. 370,

> ". . . the evidence in this case has convinced us that the invention claimed and patented to the plaintiff was anticipated and described in the English provisional specification of John Henry Johnson . . . *It is, therefore, fatal to the validity of the plaintiff's patent, if, in fact, it does describe sufficiently the manufacture described and claimed in his specification.*"

The Court then compared plaintiff's invention with the prior Johnson specification. At page 377, the Court said:

> "It is quite immaterial, even if it be a fact, that the Johnson specification is insufficient to teach a manufacturer how to make the patented corset. It is enough if it sufficiently describes the corset itself. Neither it nor the plaintiff's specification exhibits the process of making. Neither of them set up a claim for a process. The plaintiff claims a manufacture, not a mode of making it; and the important inquiry, therefore, is, whether the prior publication described the article. To defeat a party suing for an infringement, it is sufficient to plead and prove that the thing patented to him had been *patented or described in some printed publication prior to his supposed invention or discovery thereof*. Rev.

> Stat., sect. 4920. *What is required is a description of the thing patented, not of the steps necessarily antecedent to its production. . . . It is enough for this case that* the invention patented to the plaintiff was *clearly described in 1854, in the printed publication of the Johnson (Geresme) provisional specification.* The patent is, therefore, invalid, and hence the decree of the Circuit Court dismissing the bill must be affirmed."

This decision has been followed in the Third Circuit in *General Electric Co.* v. *deForest Radio Co.*, 28 F. (2d) 641 (CCA-3), affirming *General Electric Co.* v. *deForest Radio Co.*, 17 F. (2d) 90, 98-102 (D.C. Del.); in the Fourth Circuit in *Bisight Co.* v. *Onepiece Bifocal Lens Co.*, 259 F. 275 (CCA-4), *Onepiece Bifocal Lens Co.* v. *Bisight Co.*, 246 F. 450, 454-459 (Rose, J.); and in the District of Columbia in *In Re Decker*, 36 App. D.C. 104; in *In Re Marden*, 48 F. (2d) 428 (C.C.P.A.); and in *In Re Fink*, 62 F. (2d) 103, 104 (C.C.P.A.).

Therefore, the sole test to be applied in evaluating the prior patents as anticipations of the claims in suit, is whether they sufficiently describe the article claimed, and not whether they describe "the steps necessarily antecedent to its production."

But the Court of Appeals evidently failed to apply this rule when it said (R. 468):

> "The Knowlton & Hoffman patent speaks of the granulation of the carbon black by mixing it with a volatile liquid and then drying it; but it does not disclose how this is to be done, . . ."

and again, when it said, in denying the petition for rehearing (R. 475):

> "but the patent does not disclose how this may be done in such way as to produce the pellets of the patent in suit."

We respectfully submit that the Court of Appeals was wrong in its treatment of the Knowlton & Hoffman patent.

In the second place the Court of Appeals erroneously, it is believed, failed to read the Knowlton & Hoffman patent in connection with the prior Geer patent which described the process of making pellets from carbon black and water without any binder. The Court of Appeals in its original opinion said:

> "This churning or agitation is evidently the really important thing in the process, [of the patent in suit] and when properly carried on, is what causes the carbon black to agglomerate into pellets, and to do so whether any liquid is present or not." (R. 466.)

The Court of Appeals overlooked the fact that Geer had taught the public this very thing, and had made the very discovery which the Court of Appeals attributed to Wiegand & Venuto, viz. that if a mixture of carbon black and water is agitated, it will agglomerate into pellets or grains.

By this reasoning the Court of Appeals disregarded the established principle of law that:

> "Where the patent is an improvement on a prior patent which is referred to in the improvement patent, the latter should be read in connection with the former."
>
> *Walker on Patents,* Dellers Ed., p. 1222;

To the like effect are:

Los Alamitos Sugar Co. v. *Carroll,* (CCA-9), 173 F. 280, 285-286;

Lynch v. *Headley,* 285 Fed. 1003, 1004 (App. D.C.).

While it does not appear that this Court has ever decided this question of law, there can be little doubt that *Walker On Patents* states it correctly. The novelty of an invention

depends on the state of public knowledge preceding its making. To determine what was the prior state of public knowledge, a patent is not to be considered independently of other prior patents or publications. Where one prior patent contains a reference to an earlier patent and thus directs attention to information, which is thus acknowledged to be in the public domain, the two are even more certainly to be read together.

In making its pellets by its Sayre process [1] petitioner does exactly what Geer described. It mixes carbon black and water to a consistency "dustless and yet not pasty" and then stirs, churns or agitates the mixture in a pin drum until the pellets or grains are formed. Then they are dried as directed by Knowlton & Hoffman. That which infringes if later, anticipates if earlier.[2]

Therefore, we respectfully submit that claims 1 and 2 are void for want of novelty since Knowlton & Hoffman's patent describes the product which they claim and that patent taken with the Geer patent to which it refers also describes the process of making the product in question.

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1 In petitioners' Sayre process carbon black as it comes from the burners is mixed with 60-65 parts of water to 40-35 parts of black forming a mass having the consistency of "wet soil or loam." (R. 100.) It is not as wet as a paste. (R. 100.) The mixture is then agitated by being rolled or tumbled in a revolving "pin-drum" until it begins to form into tiny balls or pellets, which then pass to a second drum where the rolling and tumbling is completed. Then the pellets pass into a drier where the water is removed.

2 *Peters* v. *Active Mfg. Co.*, 129 U.S. 530, 537;
Knapp v. *Morss*, 150 U.S. 221, 228;
Miller v. *Eagle Mfg. Co.*, 151 U.S. 186, 203.

B. The Claims are Void for Want of Invention in View of the Patents to Knowlton & Hoffman (R. 287), Geer (R. 289), and Coffin & Keen (R. 297).

Even though both "new and useful", to be patentable a thing must be an "invention or discovery."[1] In the case at bar the Court of Appeals rested its decision on novelty, and substituted a consideration of commercial success,[2] *i.e.* utility, for invention. Having found novelty, the Court of Appeals failed to test the patent in suit for "invention".

The present inquiry thus becomes:—In view of what the public had been taught as to making pellets from carbon black and other dusty substances, did it require more than mechanical skill to conceive the claimed pellet of carbon black? In other words, does the alleged invention measure up to the standards of invention fixed by this Court? In pursuing this inquiry it is important to bear in mind that the claims are for the product itself—an aggregate of pure carbon black of a general shape and having specified, but indefinite general qualities. Did it amount to invention to conceive of such an object, independent of a process of making it? This poses the further question: How far may a patentee, by claiming the desiderata for a product, dominate subsequent commercial products?

(a) What the Public Knew as to Pellets made from Dusty Powders.

In addition to what the public had been taught by the patents of Knowlton & Hoffman and Geer which have already been discussed, the Coffin & Keen patent (No. 1,561,-

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[1] R.S. 4886, 35 U.S.C. 31. *Thompson* v. *Boisselier*, 114 U.S. 1, 11.

[2] The Court of Appeals failed to observe that the Wiegand & Venuto two-liquid pellets never had in fact any substantial commercial success. (*Ante* p. 18.)

971, R. p. 297) describe the manufacture of pellets from clay and "other dusty rubber fillers",* in almost the terms used by Wiegand & Venuto.

The Coffin & Keen pellets were "very small globular masses" (R. p. 298, line 60). "Due to the rounded granular form" the pellets were "extremely fluent". (R. p. 298, lines 101-6.) "The individual particles of clay were so "lightly held together" "that a very slight pressure such as that of the fingers is sufficient to crush the grains but the bond between the particles is sufficiently strong to substantially prevent their breaking up during handling" (R. 298, lines 122-130). One purpose of the invention was to prevent "objectionable dusting" during mixing and handling (R. 299, lines 3-5).

Coffin & Keen expressly say that their invention is applicable to "any pulverulent material such as other rubber fillers" (R. 299, lines 16-23).

And finally Coffin & Keen summarized their invention in their claims which, of course, are part of the prior publication.

> "8. As a new article of manufacture, dried clay in the *form of very small approximately spherical* **friable** *pellets.*" [2]
>
> "10. As a new article of manufacture, dried pulverulent material in the form of very small individually dried friable globular masses composed of lightly cohering particles of the material." (R. 299.)

In other words Wiegand and Venuto only substituted carbon black for clay or dried pulverulent material to make the soft, strong, round, dustless pellets. Every char-

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* (1) Carbon black is rubber filler.

2 Wiegand testified (R. 88) that he had seen carbon black in spherical form before he made his invention.

acteristic named in the claims in suit applies to Coffin & Keen's friable pellets. Their pellets are "substantially pure;" they are "commercially uniform"; they are "small"; they are "rounded"; they are "smooth"; and they have a "spongy or porous" interior, *i.e.* are friable and the individual particles of clay are described as being lightly held together. As far as the product is concerned, Coffin & Keen taught the public what Wiegand & Venuto claimed later as an invention.

Wiegand & Venuto and Coffin & Keen were working the same field. Both had the same or similar dusty rubber fillers in mind.

Accordingly, we respectfully submit that even if Geer's and Knowlton & Hoffman's patents are disregarded, it did not require invention to make spongy or porous pellets having smooth, rounded exteriors from carbon black after Coffin & Keen had shown that making clay into pellets facilitated handling the dusty clay and did not interfere with its subsequent dispersion in the rubber.

(b) The Mere Substitution of One Material for Another is Not Invention.

At best all that Wiegand & Venuto did was to substitute carbon black for clay in Coffin & Keen's pellets. But this Court has consistently refused to hold that the mere substitution of one material for another is invention.* In *Hotchkiss* v. *Greenwood*, 52 U.S. (11 How.) 248, 266, no invention was found in the substitution of porcelain for wood or metal in a door-knob. In *Brown* v. *District of Columbia*, 13 U.S. 87, 99, no invention was found in substituting stone for wood in a paving block of peculiar shape. And in the chair-seat case, *Gardner* v. *Herz*, 118 U.S. 180, this Court

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* *Smith* v. *Goodyear Dental Vulcanite Co.*, 93 U.S. 486, is not an exception because there was a novel and special cooperation between two materials which produced an entirely new result.

held that it did not amount to invention to substitute cross-laid laminated wood molded to shape for similarly molded board for a chair-seat notwithstanding its great success and popularity. This Court quoted from *Thompson* v. *Boisselier*, 114 U.S. 1, 11 saying:

> **". . . it is not enough that a thing shall be new, in the sense that, in the shape or form in which it is produced, it shall not have been before known, and that it shall be useful, but it must, under the Constitution and the statute, amount to an invention or discovery."**

The Court (in the Gardner case) then said:

> **"But a patent cannot be taken out for an article, old in purpose and shape and mode of use, when made for the first time out of an existing material, and with the accompaniments before applied to such an article, merely because the idea has occurred that it would be a good thing to make the article out of that particular old material." (p. 192.)**

We respectfully submit that it did not amount to invention to see that it "would be a good thing" to make pellets out of carbon black instead of out of clay.

(c) The Claims Distinguished the Alleged Invention from the Prior Art Merely by Differences in Degree — But a Mere Change in Degree is Not Invention.

The differences which are alleged to distinguish the patented pellets from the prior art pellets are merely in degree —not in kind. "Substantially pure," "commercially uniform," "comparatively small," "rounded," "smooth," each designate degrees of purity, uniformity, size, shape and smoothness. "Spongy" or "porous" only means less dense than something which is more solid. "One-sixteenth

of an inch" in claim 2 only designates a mere difference in degree of size. Therefore, the improvement described by the claims of the patent is predicated on mere differences in degree.

But a mere change in degree is not invention.[1]

(d) A Mere Carrying Forward of an Old Idea is Not Invention.[2]

As already pointed out, Geer made pellets of carbon black but incorporated them in the rubber without drying them. Plaintiff says that on that account they were not pure carbon black. Knowlton & Hoffman went a step further and improved on Geer by drying out the water. Their granules or pellets were therefore of pure carbon black.[3] But plaintiff says that Knowlton & Hoffman's pellets were harsh and dense and not so spongy or porous. Thus even if we take respondent's view of the art, Wiegand & Venuto's conception of a spongy and porous pellet was "a mere carrying forward of an old idea," an advance plainly indicated by the prior art, and therefore was not invention. What the art needed, if anything, was a process by which strong pellets of carbon black could be made cheaply, not the idea that it would be a "good thing" to make them if they could be!

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1 *Guidet* v. *Brooklyn*, 105 U.S. 550, 552;
Smith v. *Nichols*, 21 Wall. 112, 22 L. Ed. 566, 567;
Powers Kennedy v. *Concrete Co.*, 282 U.S. 175, 185;

2 *Railroad Supply Co.* v. *Elyria Iron Co.*, 244 U.S. 235, 292;
Wright v. *Yuengling*, 155 U.S. 47.

3 It does not involve invention to produce a prior art product in purer form.

General Electric Co. v. *DeForest Radio Co.*, 28 F. (2d) 641 (CCA-3);
In Re Fink, 62 F. (2d) 103 (C.C.P.A.).

(e) To give a new form to an old substance is not invention.

Even if the entire prior art be disregarded, Wiegand & Venuto did no more than to give a new form to an old substance. There was no more invention in what they did, than to make sugar into cubes, or salt into tablets, or glue into granules.

In *Glue Company* v. *Upton*, 97 U.S. 3, the patentee claimed glue in granule or comminuted form instead of in large hard angular flakes. The granular glue had many advantages and was a great success. However, the Court said:

> "A distinction must be observed between a new article of commerce and a new article which, as such, is patentable. Any change in form from a previous condition may render the article new in commerce; as powdered sugar is a different article in commerce from loaf sugar, and ground coffee is a different article in commerce from coffee in the berry. But to render the article new in the sense of the patent law, it must be more or less efficacious, or *possess new properties by a combination with other ingredients; not from a mere change of form produced by a mechanical division.* . . .
> nor can the changed form of the article from its condition in bulk to small particles, by breaking or bruising or slicing or rasping or filing or grinding or sifting, or other similar mechanical means, make it a new article, in the sense of the patent law."

We submit that it did not amount to invention to conceive of carbon black in pellet form, for convenience of handling, any more than it did to subdivide large pieces of glue so that they could be used more conveniently.

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1 *Gardner* v. *Herz*, 118 U.S. 180.

(f) The Patent in Suit Does Not Measure Up to the Standards of Invention Set by this Court.

In 1880 this Court said in *Densmore* v. *Scofield*, 102 U.S. 375, 378:

> "It does not appear (to use the language of appellants' brief) that there was 'a flash of thought' by which such a result as to either was reached, or that there was any exercise of the inventive faculty, more or less thoughtful, whereby anything entitled to the protection of a patent was produced. It strikes us that the entirety and all the particulars of the summary and the claims are frivolous, and nothing more."

In the period ending about 1930 there was a tendency to give less attention to the character of the inventive act and greater weight to commercial success. (*e.g.* see *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U.S. 45). The result was a lowering of the standards of what constitutes an invention. Eventually the trend of opinion changed as it became necessary to protect the public against the encroachment of individuals who had obtained patents on mere mechanical improvements which belonged properly in the public domain. This changed trend culminated in *Cuno Engineering Co.* v. *Automatic Devices Corp.*, 314 U.S. 84, 86 L. Ed. 21, in which the cigar lighter patent was held invalid. In that case both the positive and negative qualities requisite for an invention were restated, and the Court approved the rule of *Hotchkiss* v. *Greenwood*, 11 How. (52 U.S.) 248, 267, 13 L. Ed. 683-691, saying:

> "Since *Hotchkiss* v. *Greenwood*, . . . decided in 1850, it has been recognized that if an improvement is to obtain the privileged position of a patent more ingenuity must be involved than the work of a mechanic skilled in the art." (p. 25.)

In the *Cuno* case this Court said (p. 25):

> ". . . That is to say the new device, however useful it may be, must reveal the flash of creative genius not merely the skill of the calling. If it fails, it has not established its right to a private grant on the public domain.
>
> * * * * * *
>
> ". . . A new application of an old device may not be patented if the 'result claimed as new is the same in character as the original result'."

The Court quoted with approval the statement of Mr. Justice Bradley in *Atlantic Works* v. *Brady*, 107 U.S. 192, 200, after stating:

> "Strict application of that test is necessary lest in the constant demand for new appliances the heavy hand of tribute be laid on each slight technological advance in an art."

We respectfully submit that the patent in suit which covers pellets of carbon black instead of pellets of clay, the pellets being otherwise identical, is the kind of patent which this Court has steadily condemned as laying "the heavy hand of tribute . . . on each slight technological advance in an art."

We submit that now more than ever, it is essential that the right to a patent be extended only to advances which are the result of invention. Mere new applications of old ideas must not bar industrial progress. Only in this way, will our patent system fulfill its constitutional purpose and "promote the progress of science and the useful arts."

2. IF VALID THE CLAIMS SHOULD BE CONSTRUED NARROWLY (A) IN VIEW OF THE PRIOR ART, (B) THE LIMITATIONS IMPOSED ON THEM BY THE FILE WRAPPER AND (C) TO AVOID INDEFINITENESS. WHEN SO CONSTRUED PETITIONER'S PRODUCT DOES NOT INFRINGE.*

A. In View of the Prior Art.

The limiting effect of the prior art is apparent. Since the Knowlton & Hoffman and Geer patents described pellets of pure carbon black, the claims in suit can be valid only if they disclose something different. Respondent says that since the prior art pellets were made with a single liquid which was then dried out, the carbon black was hard and harsh, but that the Wiegand & Venuto pellets were different because they were made by driving out one liquid by another thereby giving to the pellets a peculiar softness.

We respectfully submit that the claims should be limited to pellets having that asserted peculiar softness, which results from the two-liquid process, since otherwise they would cover the prior art pellets.

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* This part of the argument deals with Questions Presented 4 and 5 of the Petition for Certiorari as follows:

4. Did the Court of Appeals depart from the decisions of this Court in Schriber Co. v. Cleveland Trust Co., 311 U.S. 211, and in Exhibit Supply Company v. Ace Patents Corporation, No. 154 October Term, 1941, in holding Claims 1 and 2 of the patent in suit valid and infringed and thereby recapture from the public and for the patentee the subject-matter of cancelled claims which had been eliminated from the patent application and dedicated to the public?

5. Did the Court of Appeals in adjudging the claims in issue infringed by defendant's product, give to those claims a construction which recaptured from the public and for the patentee, subject-matter in the public domain?

B. In View of the Limitations Imposed on the Claims by the File Wrapper.

The Court of Appeals construed claims 1 and 2 in suit to cover pellets if they are (1) of pure carbon black, (2) soft enough to disintegrate in rubber manufacture, (3) are flowable, and (4) are free from dust. By so doing the Court gave to the claims a construction broad enough to include the prior art pellets or granules described by Knowlton & Hoffman, and a scope equal to that of claims which were rejected and cancelled to secure the allowance of the patent.

The Patent Office [1] rejected and the applicants cancelled several claims as follows:

> "2. Carbon black in the form of pellets of sponge-like or porous structure. (R. 312; cancelled R. 320.)
>
> "4. A pellet formed of (substantially pure) [2] soft carbon black particles, the pellet being sufficiently hard to withstand ordinary shipment or handling, but readily breaking down to a fine state of subdivision upon the application of slight pressure. (R. 312; cancelled R. 368.)
>
> "7. A carbon black pellet formed of soft carbon black, the pellet having sufficient hardness to withstand ordinary shipment or handling without dusting, but sufficiently fragile to permit reduction to the original fine state of subdivision upon the application of light pressure. (R. 312; cancelled R. 320.)
>
> "8. Soft carbon black particles cohering in small

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[1] The Patent Office apparently made but a superficial examination of the prior art for it failed to cite either the Knowlton & Hoffman or the Coffin & Keen patents.

[2] Inserted by amendment, R. 328.

masses of substantially uniform size and having smooth outer surfaces." (R. 313; cancelled R. 368.)

Claims 2 and 7 (R. 320), were cancelled after rejection by the Primary Examiner, but claims 4 and 8 were appealed (R. 342) to the Board whose authority is limited to affirming or reversing the Examiner ". . . . only on the points on which the Appeal has been taken" [1]. Thus, Wiegand & Venuto proceeded with their appeal of claims 4 and 8 ". . . . without jeopardy to any of the rights allowed." [2]

The Board of Appeals refused to allow claims 4 and 8 saying:

> "Claims 4 and 8 are broad article claims not in any way restricted by the method taught by appellants or even necessarily to the particular product produced by their process. We believe that a product as broadly stated as by these claims may result from methods far afield from that disclosed by appellants and not in any way suggested by them. These claims are so broad that the product might be quite different from appellants'. We do not consider, therefore, that claims 4 and 8 properly define appellants' invention." (R. 360.)

By this action the Board of Appeals pointed out that the claims should be limited to the product produced by applicant's process. The allowance (R. 374) of the claims here in issue, then numbered 25 and 3 respectively, and their acceptance by applicants after the Board of Appeals had established this "norm of patentability" [3] places the respondent in a dilemma, namely: *Either the claims in suit must be limited to the product made by the patentee's two liquid*

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[1] Rule 139 — United States Patent Office Rules of Practice.

[2] Hamilton's Monograph, No. 31, Patents and Free Enterprise, p. 125.

[3] Hamilton's Monograph, No. 31, Patents and Free Enterprise p. 124.

process, in which case there is no infringement, or the patent was inadvertently issued.

By cancelling them the patentees dedicated to the public the subject matter of these claims. But in construing the claims of the patent the Court of Appeals said:

> "The invention of plaintiff's patent consisted in producing carbon black in the form of small round pellets which were dustless and which would disintegrate into the original small particles of carbon black when subjected to the pressure involved in the rubber manufacturing process. These pellets could be easily handled, could be transported in tank cars or stored in bulk instead of being shipped in paper bags, as required in the case of the carbon black powder. (R. 464.)

And again later on in its opinion, the Court said:

> "The product of the patent solved not only this problem but also problems connected with handling and transportation. It did this by agglomerating the tiny particles of the powdered product into small granules or pellets which were dustless, which were flowable and which would disintegrate in the process of rubber manufacture so as to preserve the advantages of the dispersibility of the tiny particles." (R. 467.)

And still further the Court said:

> "The pellets are described as small aggregates composed of substantially pure carbon black, as being rounded and smooth in shape, and as having a spongy, porous interior." (R. 469.)

Thus the Court of Appeals construed the alleged invention to cover pellets of carbon black which were "flowable" and "could be easily handled and could be transported"—equivalent statements to that in cancelled claims 4 and 7

the pellet being sufficiently hard to withstand ordinary shipment or handling". Likewise the statement by the Court of Appeals that the plaintiff's invention consisted in producing carbon black "which would disintegrate into the original small particles of carbon black" corresponds with similar phrases in claims 4 and 7 that pellets are soft enough "to permit reduction to the original fine state of sub-division".

Thus by ignoring the limitations imposed by the file wrapper the Court of Appeals gave back to the patentees the very monopoly which had been refused by the Patent Office.

The respondent sought in the Court of Appeals to avoid the effect of the estoppel by arguing that the cancelled claims were broad enough to cover pellets containing a binder, but this argument and the Court of Appeals overlooked the fact that claim 4 which was cancelled after rejection by the Board had been amended by adding the phrase "substantially pure" and therefore was not broad enough to cover pellets made with a binder.

We, therefore, submit that the file wrapper shows that the claims of the patent, if valid, should be limited to the product of Wiegand & Venuto's particular two-liquid process, *i.e.* to a pellet which disintegrates into carbon black particles retaining their original softness, as distinguished from harsh particles which have been wet and dried without the displacement of one liquid by another.

We submit that the Court of Appeals has gone squarely contrary to the rule as to file wrapper estoppel stated by this Court.

> "It is a rule of patent construction consistently observed that . . . the claims allowed cannot by construction be read to cover what was thus eliminated from the patent." (Schriber-Schroth Co. v. Cleveland Trust Co., 311 U.S. 220.)

"Whatever may be the appropriate scope and application of the doctrine of equivalents, where a claim is allowed without (*sic*) a restrictive amendment, it has long been settled that recourse may not be had to that doctrine to recapture claims which the patentee has surrendered by amendment." (Exhibit Supply Company v. Ace Patent Corp., 86 L. Ed. 453, 458, 315 U.S. 126.)

C. To Avoid Indefiniteness.

Furthermore we submit that if the claims are to be held valid they must be construed to avoid indefiniteness.[1] As they stand the *claims are indefinite.*

"*Spongy or porous*" is an indefinite phrase. In their specification (R. 229, L. 80-85), the patentees treat porosity to be as synonymous with fragility and with structural weakness, saying that the pellets are "fragile under light pressure."

Wiegand found it impossible to define the "degree of sponginess or porosity" within precise limits. Instead, he said he never had made a pellet which was not porous (R. 84 and 86). When asked what degree of sponginess and porosity was necessary for his invention, he said: "All I know is, if you are within the proper range your pellet does a proper job in the rubber factory." (R. 80.)

In response to other questions as to the meaning of the phrase spongy and porous, Wiegand also testified:

> ". . . but I would like to reiterate that the expression, spongy or porous, as I understand it, means that the pellet has got sufficient softness to disseminate throughout the rubber and retain the all-important reinforcing properties of carbon black." (R. 86.)

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[1] The statute, R.S. 4888, U.S.C. Title 35, Sec. 33 says that the inventor must ". . . particularly point out and distinctly claim" the invention. *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U.S. 364.

"Now the range of suitable porosity, in my judgment, would be one which would be determined by the results in mixing in rubber. That would fix the tolerable range, or the range of utility of that porosity." (R. 87.)

"*Commercially uniform*" is an indefinite phrase. Its limits are what will be "acceptable to our customers." (R. 91).

"*Small*" is indefinite. How small? Wiegand seemed to think that it was anything from one-one hundredth to one quarter of an inch in diameter. (R. 83.)

The specification of the patent, the two claims, and the patentees' testimony taken together leaves one in total darkness as to the limits of the alleged invention. There is nothing by which to measure the invention except the functional test,[1] viz. "the results in mixing in the rubber."

Either the claims are indefinite since they fail to "distinctly claim" the invention, or they are functional, *i.e.*, define the invention in terms of what the improvement intended to accomplish and not in terms of physical characteristics.

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[1] "The limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public. The statute seeks to guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their rights. The inventor must 'inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not.' The claims 'measure the invention'. Patentees may reasonably anticipate that claimed inventions, improvements and discoveries, turning on points so refined as the granular structure of products, require precise descriptions of the new characteristic for which protection is sought. In a limited field the variant must be clearly defined." *General Electric* v. *Wabash Appliance Corp.*, 304 U.S. 364, 369.

D. When so Construed the Petitioner's Product Does not Infringe the Claims.

The foregoing discussion shows that the prior art, the file wrapper the statutory requirement that the claims be definite have imposed certain limitations on the claims. Any infringing pellets must:

(1) Be made of "*substantially pure carbon black*" such as results from the peculiar purifying action of Wiegand & Venuto's two-liquid process which causes "any grit which then may be in the carbon black to settle to the bottom" (R. 229, lines 100-105).

(2) Be "*commercially uniform*" or as stated in claim 2 approximately 1/16th of an inch in diameter.

(3) Be "*spongy or porous*", *i.e.*, disintegrating into "soft minute particles which cannot be told from the original particles except that possibly they have a more unctuous feel" (R. 229, lines 86-88), and they must be free of harsh particles which are said to result when the pellets are formed without displacing one liquid by a more volatile one.

If claims 1 and 2 can be considered to be valid, it must be because they are held strictly to the three limitations stated above.

But petitioners' pellets (made by the Sayre process) have quite different characteristics.

First it is to be noted that they are made by the single-liquid process and that the patentees condemned the single-liquid process as producing hard harsh pellets which were not satisfactory in use. Speaking of a single-liquid process they said:

> ". . . . but the resulting cake is hard, the carbon particles tend to hold together in chunks, and they no longer disperse readily and uniformly as for example in rubber compositions. Apparently the state of aggre-

gation of the carbon particles has been changed in such altered carbon blacks. . . ." (R. 228, lines 31-4.)

Petitioners make pellets by the single-liquid process but they can be used in rubber manufacture because modern machinery (*e.g.* the "Banbury mixer"), is sufficiently powerful to overcome the adhesion of the particles.

Petitioners' pellets *are not made of "substantially pure carbon black."* They contain whatever grit, *i.e.*, overburned carbon, metallic particles from the channels on which they are collected and ash, etc., was originally in the crude carbon black from which they are made. The carbon black undergoes no purification (R. 122). No particles of grit are settled out by any flotation.

Nor are petitioners' pellets *"commercially uniform"* when produced. Instead they vary in size, and are screened to separate pellets of the desired size. If commercial uniformity can impart anything of patentability to the claims, it must be because such uniformity is the result of the peculiar process by which they are made—not because pellets of a single size have been separated by screening.

Nor are petitioners' pellets *"spongy or porous"* in the sense in which the Wiegand & Venuto's pellets made by their two-liquid process are.

Microscopic examination shows that defendant's pellets have a different structure.

During the trial, petitioner's expert, Dr. Drogin, split in halves specimen pellets of the various exhibits and placed the fragments under a microscope, **after which the District Judge himself examined them,** and Dr. Drogin testified as to their appearance. Dr. Drogin summed up their difference in appearance by the statement that petitioner's pellets had "a very dense, or rather a dense interior, in comparison with the spongy and porous appearance of Wiegand & Venuto's pellets made by the two-liquid process" (R. 140).

We suggest a comparison of the enlarged photograph of the Wiegand & Venuto pellet found on page 29, Dft's Ex. 20, R. 133, and the similar photograph of one of the alleged infringing pellets, Dft's Exh. 25, R. 142.

The Respondent disputed these comparisons but the District Judge found as a fact that:

> ". . . there are recognizable differences between the product described by the claims of the plaintiff's patent and defendant's product, such as degree of porosity, degree of purity and degree of uniformity in size." (Finding 6, R. 2.)

The District Judge also found that:

> "In order to describe its product, plaintiff was obliged to describe it, in testimony, in functional terms." (Finding 4, R. 2.)

The Court of Appeals disregarded these as well as the other findings of fact of the District Judge. The reasons advanced by the Court of Appeals to establish infringement equally establish invalidity of the claims in suit, in view of the Knowlton & Hoffman, the Geer, and the Coffin & Keen patents which have already been discussed; but, if valid at all, which we deny, the claims must be limited to the very thing which Wiegand & Venuto produced and when so limited do not describe the petitioners' product of the single-liquid process.

Viewed from any aspect, therefore, it seems clear that were the claims in suit valid, defendants' product would not infringe them and questions 4 and 5 of the petition for certiorari should be answered in the affirmative.

3. THE DECISION OF THE COURT OF APPEALS RESULTS IN EXTENDING THE MONOPOLY OF THE PATENT BEYOND ANY INVENTION DISCLOSED.

"Patentees as a class are public benefactors, and their rights should be protected. But the public has rights also. The rights of both should be upheld and enforced by an equally firm hand, wherever they come under judicial consideration." [1]

". . . the public policy which includes inventions within the granted monopoly excludes from it all that is not embraced in the invention." [2]

The Court of Appeals would appear to have disregarded these principles of law. It rested its opinion (R. 463), on the proposition that because, as the Court believed, the patentees discovered that violent agitation of a mixture of water and carbon black to which gasoline had been added resulted in pellets of a different character, they were entitled to a monopoly not only of the process, but of the product however made, provided it is strong enough to withstand handling and soft enough to disperse in rubber. There are six other known processes by which commercial carbon black pellets are made. None of these bear any relation to Wiegand & Venuto's two-liquid process. If respondent's product claims are not limited to the product of the two-liquid process, the monopoly of the patent is extended far beyond any invention disclosed by the patent. In respondent's hands the product claims are a subtle device to extend the monopoly, to blanket not only the carbon black industry but also the rubber industry which requires carbon black almost as much as it does rubber.

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[1] *Densmore* v. *Scofield*, 102 U.S. 375.

[2] *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U.S. 488, 492, 86 L. Ed. 317.

What improvement or novelty over Geer, Knowlton & Hoffman or Coffin & Keen did Wiegand & Venuto make which can justify giving respondent its asserted monopoly over all carbon black in pellet form? Did Wiegand & Venuto give the rubber industry a new raw material? Should the rubber industry pay tribute to respondent's patent because carbon black in the form of pellets reduced the dust nuisance, as both Geer and Knowlton & Hoffman had said it would; or because it would flow from hoppers and through conduits, as Coffin & Keen said pellets of clay and other rubber fillers would; or because their pellets were softer than Knowlton & Hoffman's, or more uniform in size, or purer?

These questions but emphasize the need of scrutiny to see whether the product claims of the patent are more than an attempt to secure a monopoly wider in scope than any invention made by the patentees.

4. A WORD AS TO PRODUCT CLAIMS.

While a novel and useful product with new properties whose creation demanded the exercise of invention has been held to be patentable as such and independently of the process of making it,[1] the indiscriminate allowance and use of product claims is full of potential danger to the public as they may be a subterfuge to extend the patent monopoly beyond anything justified by the actual invention.

Especially is this true where a product and an unsuccessful process for making it are claimed in a single patent. Such a product claim is only a disembodied spirit, yet for seventeen years it can thwart the efforts of those who perform a public service by devising sound and economical methods of making the product. Such a result may be

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1 *Holland Furniture Co.* v. *Perkins Glue Co.*, 277 U.S. 245-258; Patentability of Product of a Process, 36 Mich. L.R. 811-817 (1938); Is a Product of a Process Patentable? 11 Va. L.R. 432 (1925).

tolerated when the product has definite critical and novel properties in which reside its contribution to the arts, as in a new alloy; but it should be certain that such product claims, if not supported by a successful process, respond to the highest test of invention. If a mere intellectual conception is to stand as a patent claim, it should be beyond doubt the result of genius and be defined with a definiteness beyond dispute. In the case at bar, the product, if new at all, was new only because it had those peculiar structural characteristics which the patentee said resulted from the two-liquid process by which it was made but its patentees have claimed it in terms broad enough to cover all carbon black pellets no matter how made, if they are pure, soft enough to disperse in the rubber and yet strong enough and hard enough to stand ordinary shipment and handling.

As interpreted by the respondent the two claims in suit cover carbon black whenever it is given the familiar pellet shape and the pellets have the inevitable more or less porous structure. This is the extent of the enormous monopoly sought by respondent.

Thus by the device of indefinite product claims, respondent asks to have its monopoly extended far beyond any discovery or invention which the patentees may have made. This, it is believed, the law does not sanction or permit.

CONCLUSION.

Petitioners earnestly urge that the claims in suit are invalid and, if valid, are not infringed and that the decree below should be reversed.

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